

# CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

WALTER M. DICKIE, M.D., Director

## Weekly



## Bulletin

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GUY P. JONES  
EDITOR

## The Typhoid Fever Carrier Problem

(Continued from last issue)

I should like to emphasize the importance of taking cultures correctly. The most satisfactory cultures are those taken following a saline cathartic. Often individuals with repeated negatives taken without cathartics are found positive following saline cathartics—especially those which stir up the gall bladder.

Now we come to the control of carriers after they have been detected. No individual should be declared a carrier unless the laboratory work is done by an approved laboratory. The state regulations require that positive cultures on which the determination is made be sent to the state laboratory for confirmation. No laboratory should object to this requirement. As the confirmation of the laboratory findings only adds to the weight of evidence should there be legal complications in enforcing the carrier to obey the state regulations. The fact that the individual is a carrier should be reported to the State Department of Health at once and the individual should be notified and his status explained carefully to him. The regulations require that the individual be placed in a modified quarantine. This quarantine is considered to be fulfilled as long as the carrier obeys certain requirements, namely:

1. Carrier to take no part in the preparation, serving, or handling of milk or other food which may be consumed by persons other than his own immediate family; and not to participate in the management of a dairy or other milk distributing plant, boarding house, restaurant, food store, or in any place where food is prepared or served, or in any occupation involving the preparation or handling of food.

2. To encourage every member of his family to be immunized against typhoid fever every three years.

3. To wash his hands thoroughly after using the toilet, and before handling food in the home.
4. To use an adequate amount of quick lime in an outdoor privy (if such must be used) and keeping same in a good sanitary condition and fly proof.
5. To keep the local health officer informed at all times of his address and any changes in occupation.
6. To report to the local health officer immediately any case of illness in family or among immediate associates.
7. To discuss problems arising concerning his carrier state with the health officers.
8. To communicate with the health officer before submitting to any type of treatment or attempted cure of the carrier condition.
9. Not to be permitted to live or work upon the premises of a dairy except with the written permission of the Director of the State Department of Public Health.

The carrier is required to sign the typhoid fever carrier agreement provided by the state for that purpose. These agreements merely indicate that the individual has been duly informed of his condition and his signature on the agreements simply is his acknowledgement of having received the instructions—whether he signs the agreements or not in no way alters his status and he will be held responsible for abiding by the regulations.

The health officer should insist upon the immediate immunization of all members of the carrier's family and should see to it that all new additions to the family either by birth or marriage should likewise be immunized. Immunization should be repeated every three years. In New York state<sup>6</sup> in a study of the incidence of typhoid fever in household contacts of known carriers it was found that they were 42 times as likely to contract typhoid fever as the general population. The attack rate among those not immu-

nized was five times greater than among those contacts immunized.

The health officer should show every consideration for the carrier. The fact that the individual is a carrier should be kept entirely confidential so long as the individual cooperates fully with the health officer. In many instances it means a change in occupation. The health officer should assist the individual as much as possible in securing other employment and aid in any way he can in getting the carrier adjusted to his new status and the limitations placed upon him. In a few states compensation by the state has been allowed some carriers because of loss of their livelihood. In California, as yet, no such assistance is available. It is natural for all carriers whether commercial food handlers or not to wish to be cured of their carrier state. I would like at this time to point out and emphasize the fact that at the present time the California State Department of Public Health does not recognize any means of cure of the chronic typhoid carrier and once a carrier is placed on our records he is required to follow and obey the carrier instructions throughout the remainder of his life. I wish to emphasize this again as in our recent typhoid carrier survey throughout the state we found many health officers, despite the state regulations, have been officially releasing known chronic carriers often on a single negative stool specimen, taken without supervision. Such a procedure is bound, sooner or later, to result in disaster. It is not easy to always demonstrate typhoid organisms in the feces of the carrier. Often the carrier has period of remission lasting months, during which repeated specimens are found to be negative only to find them periodically shedding bacilli. There is no need of requiring additional specimens from a carrier once he has been determined by competent means to be a carrier. (In fact, a few negative specimens often confuse the carrier as to his status.)

No method of cure for the chronic urinary carrier has been found up to the present time. No medical method of cure for the intestinal carrier has as yet been discovered. However, considerable experimental evidence has accumulated that it is possible by surgery to cure some intestinal carriers provided the focus of infection is limited solely to the gall bladder. (This method was first suggested by Dehler in 1907.)<sup>1</sup> The first operation undertaken in New York state for the cure of the carrier condition was in 1920. Since then (up to 1932) they have operated on 68 carriers.<sup>2</sup> In 61 the gall bladder was removed, in seven only drained. Of the 68, 42 were operated primarily for the cure of the carrier state—26 for the relief of gall bladder symptoms. The mortality rate

was 14.7 per cent. (No mortality under the age of 50, 32 per cent mortality above 50.) Eighty-four and three-tenths per cent of those operated were found to have gall stones; 68 per cent of the recovered group were apparently permanently cured of their carrier condition as attested by eight negative stool specimens and three negative duodenal specimens taken at intervals following recovery.

(Haaland and Haaland<sup>3</sup> reported the results of cholecystectomy on 15 carriers in Norway with an apparent cure in 86 per cent and a mortality rate of 7.2 per cent.)

In Massachusetts in 1933 Bigelow and Anderson<sup>4</sup> reported operating on 12 carriers with apparent cure in all cases. All 12 had definite gall bladder disease and gall stones, all had positive bile specimens, and all had monthly stool specimens and a negative bile culture before release.

The concensus of opinion has been that cholecystectomy is a rational method for the cure of the carrier state in certain individuals. Apparently the procedure results in cures in 75 per cent of the cases providing the cases are properly selected. This method should be advised only in good surgical risks under the age of 50 having positive bile cultures and definite symptoms of gall bladder pathology. No surgeon should operate on a carrier with the promise of a cure of the carrier state. No carrier should be pronounced cured by this method unless they have had adequate laboratory work following the surgery. By adequate laboratory work is meant at least eight successive negative feces specimens taken at least two weeks apart and three negative duodenal specimens taken after clinical recovery from the operation and not less than two weeks apart. All specimens to be taken under the supervision of the health officer and examined in an approved laboratory.

<sup>1</sup> Carrier-Borne Typhoid Fever in New York State. E. L. Stebbins, M.D., F.A., P.H.A., and Elizabeth Keed. Am. J. P. H., Vol. 27, pp. 233-240, March, 1937.

<sup>2</sup> Typhoid Carriers in New York State with Special Reference to Gall Bladder Operations. Herman Seraftner and Frank E. Coughlin. Am. J. Hyg., Vol. 17, pp. 711-723, May, 1933.

<sup>3</sup> Am. P. H. Assn. Year Book 1935-1936, pp. 98-100.

<sup>4</sup> State of Connecticut, Report of the State Department of Health, 1934, pp. 183-195.

<sup>5</sup> Typhoid Carriers Among 7,000 Food Handlers, James R. Scott, M.D., Ph.D., Can. P. H. Jour., Vol. 28, pp. 120-124, March, 1937.

<sup>6</sup> Health News, N. Y. State, May 24, 1937.

<sup>7</sup> The Cure of Typhoid Carriers, George H. Bigelow and Gaylord W. Anderson, J. A. M. A., Vol. 101, pp. 348-352, July 29, 1933.

<sup>8</sup> Typhoid in West Norway, Haaland, Marget, and Haaland, Magnus, Lancet 2:1172, Dec. 3, 1927.

One may learn to swim by the use of corks, but eventually one must swim alone. Teaching is analogous to the corks. Eventually one must carry on his education unaided and independently. The best fruits spring from individual initiative and self-directed effort.

### EPIDEMIC ENCEPHALITIS

It becomes apparent, after laboratory examinations that epidemic encephalitis similar in many respects to the "St. Louis" or "Japanese" encephalitis has been present in several counties of the lower San Joaquin Valley. In order that full information may be obtained it is recommended that post mortem material, in suspected cases be properly preserved in glycerine and partly fixed, and sent to the Hooper Foundation for Medical Research, San Francisco. Following is a report on the histopathological findings in two fatal cases:

1. Distention and engorgement of meningeal vessels and those generally throughout the cerebrum. This was particularly noticeable in the region of the internal capsule.

2. Small hemorrhages into the cerebral cortex, walls of the third ventricle and floor of the fourth ventricle.

3. Areas of softening microscopically revealed accumulations of gitter cells with loss of the nervous tissue architecture.

4. Perivascular infiltration of mild to moderate degrees with no predominating cell type. The infiltrate consisted chiefly of polymorphonuclear leucocytes, small lymphocytes and plasma cells. In one case polymorphonuclear leucocytes were scattered in the tissues.

5. There was a general increase in glia elements which occasionally formed stars and rosettes. Microglia (Penfield method) were shrunken and frequently vacuolated.

6. Damage resulting to ganglion cells was apparent by the chromotolysis varying from a central to a more complete type. The neurofibrils were thickened, segmented, or lacking chiefly in the central areas of the cells. Cells undergoing neuronophagia were not numerous and appeared to be distributed throughout the tissue.

7. Marked reactions were in evidence in the region of the corpus striatum and about the 3d and 4th ventricles. A mild general reaction was apparent in most areas of the brain.

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Study brings pleasure; kindles enthusiasm. It makes the student feel akin to scholars, to artists and other creative workers, to educated men and women. He traces the history of the subject, thereby putting himself into a position better to comprehend its condition in his own time. He lays hold on its principles. Not content with what others have done in the field, he endeavors through his own research to discover new truth. Studying in this way he becomes educated.

### REQUIREMENTS FOR NONPROFIT HOSPITAL SERVICES

The California State Board of Public Health at its regular meeting on September 14, 1937, established the following requirements for hospital services under the provisions of the so-called nonprofit hospital act, Chapter 882, Acts of 1937:

1. A modern physical plant, properly equipped for the comfort and scientific care of the patient.
2. Clearly stated constitution, by-laws, rules and regulations setting forth organization, duties, responsibilities, and relations.
3. A carefully selected governing body having complete and supreme authority for the management of the institution.
4. A competent, well trained executive officer or superintendent with authority and responsibility to carry out the policies of the institution as authorized by the governing body.
5. An adequate number of efficient personnel, properly organized and under competent supervision.
6. An organized healing art staff of ethical, competent physicians for the carrying out of the professional policies of the hospital, subject to the approval of the governing body.
7. Adequate diagnostic and therapeutic facilities with efficient technical service under competent healing art supervision.
8. Accurate and complete clinical records filed in an accessible manner so as to be available for study, reference, follow-up and research.
9. Group conferences of the administrative staff and of the healing art staff to review regularly and thoroughly their respective activities in order to keep the service and the scientific work on the highest plane of efficiency.
10. A humanitarian spirit in which the best care of the patient is always the primary consideration.

### INFANT CARE LETTERS IN SPANISH

For many years the Bureau of Child Hygiene of the California State Department of Public Health has distributed to mothers a series of letters upon infant care. These letters are forwarded, each month, and outline standard procedures in the provision of proper care for the infant. They have now been printed in Spanish and are available for distribution. It is hoped that through them the high infant mortality among children of Mexican parentage in California may be reduced.

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The words of our language expressing pleasure are less numerous than those expressing pain. The same is true of health and disease, praise and blame, right and wrong. When a thing is right, it is likely to be taken for granted; when it is wrong, someone rushes into print about it. As long as we are in health, life is spontaneous and its processes go on almost unnoticed; but in ill-health the processes of life obtrude themselves upon our attention, and so get named. In general, the positive aspects of life meet with acquiescence, but the negative ones stir up words.

**MORBIDITY****Complete Report for Following Diseases for Week Ending  
October 9, 1937****Chickenpox**

112 cases: Alameda 7, Berkeley 3, Oakland 38, Fresno County 1, Fresno 2, Kern County 1, Lassen County 2, Los Angeles County 5, Long Beach 2, Los Angeles 11, Monrovia 1, Santa Monica 1, San Anselmo 1, Riverside 2, Sacramento County 1, San Diego 4, San Francisco 10, Burlingame 1, Redwood City 1, Santa Barbara County 6, Santa Cruz County 1, Santa Cruz 3, Dorris 1, Sonoma County 1, Sutter County 1, Yuba City 1, Ventura County 2, Oxnard 1, Yolo County 1.

**Diphtheria**

19 cases: Alameda County 1, Oakland 1, Contra Costa County 1, Kern County 1, Los Angeles County 1, Los Angeles 9, San Diego 1, San Francisco 1, Stockton 1, San Luis Obispo County 1, Tulare County 1.

**German Measles**

15 cases: Berkeley 1, Oakland 1, Kern County 1, Lake County 1, Los Angeles County 5, Los Angeles 1, Pasadena 1, South Gate 1, San Bernardino 1, San Francisco 2.

**Influenza**

16 cases: Los Angeles County 2, Alhambra 1, Huntington Park 2, Los Angeles 3, Pasadena 1, Santa Monica 1, Orange County 1, San Diego County 1, San Francisco 1, Tulare County 3.

**Malaria**

13 cases: Kern County 1, Ukiah 1, Placer County 1, Sacramento County 1, San Francisco 1, Sutter County 1, Tulare County 1, Yuba County 1, Marysville 4, California 1.\*

**Measles**

20 cases: Albany 1, Oakland 1, Fresno County 1, Los Angeles County 3, Burbank 1, Glendale 1, Long Beach 1, Los Angeles 7, Santa Ana 1, San Diego 1, San Francisco 1, San Mateo 1.

**Mumps**

117 cases: Alameda County 1, Berkeley 2, Oakland 10, Fresno County 2, Fresno 1, Kern County 7, Lake County 1, Los Angeles County 3, Compton 1, Covina 1, Glendale 4, Huntington Park 1, Long Beach 5, Los Angeles 11, Manhattan 1, San Marino 1, Santa Monica 6, Madera 1, Merced 1, Monterey County 1, Napa 1, Anaheim 1, Fullerton 2, Orange 2, Riverside County 1, Sacramento County 3, Sacramento 3, Ontario 3, Redlands 1, San Diego County 2, La Mesa 3, National City 1, San Francisco 21, Stockton 1, San Luis Obispo County 4, Palo Alto 2, Santa Cruz County 1, Sonoma County 1, Petaluma 1, Tulare County 1, Ventura County 1.

**Pneumonia (Lobar)**

30 cases: Oakland 1, Los Angeles County 2, Los Angeles 6, Fullerton 1, Roseville 1, Riverside County 1, Sacramento 1, San Bernardino County 1, San Diego County 1, San Diego 1, San Francisco 9, Lodi 1, Stockton 2, Sonoma County 1, Petaluma 1.

**Scarlet Fever**

137 cases: Alameda County 2, Berkeley 1, Oakland 5, San Leandro 1, Butte County 1, Fresno County 9, Sanger 4, Kings County 1, Lassen County 4, Los Angeles County 10, Alhambra 1, Burbank 1, Huntington Park 1, Long Beach 3, Los Angeles 34, Pomona 2, Santa Monica 1, South Gate 2, Monterey Park 1, Bell 1, Mariposa County 1, Monterey County 1, Salinas 1, Orange County 7, Fullerton 3, Santa Ana 4, Auburn 1, Riverside County 3, Sacramento County 1, San Bernardino County 1, La Mesa 1, San Diego 3, San Francisco 4, Stockton 1, San Mateo County 3, Daly City 2, Redwood City 3, Santa Clara County 2, Santa Cruz County 1, Watsonville 2, Redding 3, Tulare County 1, Ventura County 1, Santa Paula 1, Yuba County 1.

**Smallpox**

8 cases: Berkeley 3, Oakland 1, Tuolumne County 3, Sonora 1.

**Typhoid Fever**

20 cases: El Cerrito 1, Pittsburg 1, Fresno 1, Los Angeles County 1, Pomona 3, Napa County 2, Redlands 2, San Francisco 1, Tulare County 5, Tuolumne County 1, California 2.\*

**Whooping Cough**

164 cases: Berkeley 5, Oakland 6, Fresno County 2, Kern County 1, Kings County 3, Los Angeles County 18, Glendale 3, Inglewood 2, La Verne 1, Long Beach 1, Los Angeles 30, Pasadena 1, Santa Monica 2, Hawthorne 1, Maywood 1, Madera 2, San Rafael 2, Merced 3, Orange County 1, Anaheim 2, Brea 1, Fullerton 1, Huntington Beach 3, Riverside 6, Sacramento County 7, Sacramento 13, Escondido 2, National City 1, San

\* Cases charged to "California" represents patients ill before entering the state or those who contracted their illness traveling about the state throughout the incubation period of the disease. These cases are not chargeable to any one locality.

Diego 6, San Francisco 27, Manteca 2, Stockton 3, Burlingame 1, Santa Clara County 3, Palo Alto 1.

**Meningitis (Epidemic)**

2 cases: Glenn County 1, Santa Cruz County 1.

**Dysentery (Amoebic)**

4 cases: Los Angeles County 1, Upland 2, Sutter County 1.

**Dysentery (Bacillary)**

15 cases: Fresno County 1, Los Angeles County 2, Azusa 1, Los Angeles 2, Monterey County 3, San Francisco 1, Burlingame 1, Daly City 1, Sonoma County 3.

**Pellagra**

One case: San Jose.

**Pollomyelitis**

17 cases: Calaveras County 1, Los Angeles County 4, Los Angeles 8, San Marino 1, Palo Alto 1, Tulare County 1, Ventura County 1.

**Tetanus**

3 cases: Los Angeles 1, San Bernardino 1, National City 1.

**Trachoma**

12 cases: Los Angeles County 1, Los Angeles 1, Riverside County 6, San Francisco 2, Santa Cruz County 2.

**Beriberi**

One case: Chula Vista.

**Encephalitis (Epidemic)**

4 cases: Fresno County 1, Fresno 1, Palo Alto 2.

**Jaundice (Epidemic)**

2 cases: Alameda County.

**Food Poisoning**

14 cases: San Francisco 13, Sonoma County 1.

**Undulant Fever**

4 cases: Los Angeles 1, Montebello 1, South Pasadena 1, South San Francisco 1.

**Tularemia**

One case: Tulare County.

**Septic Sore Throat**

One case: San Francisco.

**Relapsing Fever**

3 cases: Placer County 1, San Bernardino County 2.

**Rabies (Animal)**

41 cases: Coalinga 2, Los Angeles County 12, Alhambra 1, Culver City 2, El Segundo 1, Long Beach 1, Los Angeles 7, Pasadena 1, Pomona 1, Santa Monica 1, Hawthorne 1, South Gate 1, Monterey Park 2, Madera County 1, Merced 1, Monterey County 2, Orange County 2, San Bernardino 1, San Joaquin County 1.

No enterprise in the wide range of human experience can rank with training the mind. If, therefore, we have received from heaven nothing so good as the mind, what should be more worthy of exercise and cultivation? No other adventure is to be compared with it. Through it civilization and all man's higher achievements have been won. The report of a gun does not carry so far as the music of the lyre. To pursue intellectual ideals, unlike galloping with a king in a game park, is a glorious experience open to every man who cares to live richly and well.